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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,400	03/02/2005	Sami Poykko	59643.00578	3257
32294 7590 04/10/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212				
EXAMINER				
HUYNH, NAM TRUNG				
ART UNIT		PAPER NUMBER		
2617				
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04/10/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/526,400

**Applicant(s)**

POYKKO ET AL.

**Examiner**

NAM HUYNH

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2 and 4-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-24 is/are allowed.
- 6) ☒ Claim(s) 1-17 and 25-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI-108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/24/08 has been entered.

### ***Response to Amendment***

This office action is in response to amendment filed on 12/24//08. Of the previously presented claims 1, 2, and 4-29; claims 1, 26, 27, 28, and 29 have been amended.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 29 pertains to a computer program embodied on a computer readable medium, however, there is no support or evidence in the specification for defining a computer program, as well as a computer readable medium.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4-17, and 24-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Kong (US 6,275,186).

Regarding claim 1, Kong teaches a method of estimating the location of a mobile device, comprising:

collecting location information (column 11, lines 42-65; MS measures signal strengths (SIRs) of BS pilot signals);

selecting at least one of a plurality of different location methods to provide a location estimate said methods comprising using cell identity information (column 10,

lines 48-54); one of three methods are selected based on the number of pilot signals received from respective base stations);

determining a first location estimate of a mobile device based on the at least one selected location method, said first location estimate being based on a serving base station transceiver station (column 11, lines 42-65; a storage calculates SIR of pilot signals based on information about sector direction, sector-cross section, and antenna transmission power pattern of the serving BS);

determining a virtual base station estimate (determination of direction) using at least some of the collected location information (SIR of pilots), said virtual base station estimate being determined based on the first location estimate of the mobile device (pilots of the serving base station) and direction information of the serving base transceiver station (comparator obtains direction from the SIR information) (column 11, lines 42-65); and

providing a second location estimate (final MS location) using one of said different location methods based on at least one of the at least one selected first location method estimate and the virtual base station estimate, said second location estimate being a location of the mobile device (column 11, lines 42-65).

Examiner note: In the third method of Kong, which is being relied upon by the Examiner, a location is calculated using two pilots of a single base station which takes into account direction information. In the second method (column 11, lines 20-41), a location is calculated without direction information because it is not needed since pilots are received from two base stations. The Examiner takes the position that the

determination of direction in the third method renders the “virtual base station estimate” because the direction information is used in absence of a measurement from a second base station, thus rendering a “virtual base station”.

Regarding claim 2, Kong teaches said at least one location method comprises at least one of: using cell identity information; using cell identity information and received signal strength; using cell identity information and timing advance information; and using cell identity information, received signal strength information and timing advance information (column 10; lines 48-54).

Regarding claim 4, Kong teaches the at least one method further comprises determining the virtual base station estimate using at least one of cell identity information and cell identity information and timing advance information (column 11, lines 42-65).

Regarding claim 5, Kong teaches said virtual base station location estimate is coupled with at least one virtual measurement (direction information) and at least one real measurement (SIR of pilots) said at least one virtual measurement being processed using a location method (column 11, lines 42-65; both are used to find location).

Regarding claim 6, Kong teaches providing said second location estimate comprises processing said virtual base station location estimate is coupled with at least one virtual measurement and at least one real measurement said at least one virtual measurement being processed using a location method, and wherein the at least one real and the at least one virtual measurements are processed using at least one of cell

identity information and cell identity information and timing advance information (column 11, lines 42-65).

Regarding claim 7, Kong teaches a value for the virtual measurement is one of measured levels, a combination of measured levels, and an average of measured levels (column 11, lines 42-65).

Regarding claim 8, Kong teaches at least one location method is selected in dependence on the location information available (column 10, lines 48-52).

Regarding claim 9, Kong teaches said plurality of location estimates are determined and at least one estimate is used to provide said location estimate (column 10, lines 48-52).

Regarding claim 10, Kong teaches said location information is collected by said mobile device (column 5, lines 20-37).

Regarding claims 11-13, Kong teaches mobile device is configured to measure received signal level (SIR) (column 5, lines 20-37).

Regarding claim 14, Kong teaches said mobile device is in a cellular communications device (column 1).

Regarding claim 15, Kong teaches said information is collected for a serving cell of the mobile device (column 11, lines 42-65).

Regarding claim 16, Kong teaches said information is collected for at least one neighbouring cell (column 5, lines 20-37).

Regarding claim 17, Kong teaches selecting the or each cell in respect of which location information is collected (column 11, lines 42-65).

Regarding claims 24 and 25, Kong teaches the method is one of a iterative and a closed form method and one of a linear and non linear method (figure 5A).

Regarding claims 27-29, the limitations are rejected as applied to claim 1.

### ***Allowable Subject Matter***

6. Claims 18-23 are allowed.

### ***Response to Arguments***

7. Applicant's arguments filed 12/24/08 have been fully considered but they are not persuasive. Regarding claim 29, Applicant has pointed to paragraph 27 of the specification for support of a "computer readable medium". The recitation that a user equipment may be a "computer" is not sufficient because there is no definition of what kind of medium is utilized for performing the method of the invention. Therefore the 35 U.S.C. 112 1<sup>st</sup> paragraph rejection of this claim has been maintained.

8. Applicant's arguments with respect to claims 1, 2, 4-17, and 24-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/  
Supervisory Patent Examiner, Art Unit 2617

/Nam Huynh/  
Examiner, Art Unit 2617